

# Sprat

According Frisk et al., Sprat (*Sprattus sprattus*) is a small pelagic species of fish, with a wide distribution along the European continental shelf (2015). Sprat (sometimes also known as European sprat) can be found in the North Sea, Wadden Sea, Baltic Sea, Mediterranean Sea, and Black Sea (Frisk et al., 2015). Sprat primarily feed on copepods, but are also known to feed on Polychaeta, Crustacea, Mollusca and Chaetognatha (Bayhan & Sever, 2015).



They forage for these prey by migrating from different area within the North Sea and Wadden Sea (Bayhan & Sever, 2015). Similarly to Sandeel, sprat are an essential species within the North Sea, as they are the primary food source for many different species within the North Sea (Saltalamacchia et al., 2021). This study found that Sprat also occurs in the Wadden Sea, but found no evidence that they can be commonly found there (Maathuis et al., 2014; Frisk et al., 2015).

## History/ Population trends

This study found no studies on the history or population trends of Sprat in the North Sea or Wadden Sea, with the exception of a short notion in an ICES report from 2002. In this report, Corten denotes that sprat stocks have increased in the North Sea (2002). However, population trends on sprat in the Baltic Sea were found. According to Eero, the estimates of sprat (*Sprattus sprattus balticus*) biomass in the Baltic Sea were extended back from the beginning of ICES stock assessments in 1974 to the early 1900s (2012). The analyses identified peaks in sprat spawner biomass in the beginning of the 1930s, 1960s, and 1970s at ~900 kt (Eero, 2012). Only half of that biomass was estimated for the late 1930s, for the period from the late 1940s to the mid-1950s, and for the mid-1960s (Eero, 2012). For the 1900s, fisheries landings suggest a relatively high biomass, similar to the early 1930s (Eero, 2012). The exploitation rate of sprat was low until the development of pelagic fisheries in the 1960s (Eero, 2012). Spatially resolved analyses from the 1960s onwards demonstrate changes in the distribution of sprat biomass over time (Eero, 2012). The average body weight of sprat by age in the 1950s to 1970s was higher than at present, but lower than during the 1980s to 1990s (Eero, 2012).

## Miscellaneous

- Sprat reach an average size of 16cm, however, ICES Journal of Marine Sciences mentions that specimens with a length of 18cm were regularly caught (n.d.). Sprat mostly reach the age of 5 years old, and rarely get to older ages than 6 years old (ICES Journal of Marine Sciences, n.d.).

## Diet

- Zooplankton (Bayhan & Sever, 2015)
- Crustaceans (Bayhan & Sever, 2015)
- Annelida (Bayhan & Sever, 2015)
- Other detritivores (Bayhan & Sever, 2015)

## Sources

- Bayhan, B., & Sever, T. M. (2015). Spring diet and feeding strategy of the European sprat *Sprattus sprattus* (L., 1758) from the Black Sea coast of Turkey. *Turkish Journal of Agriculture - Food Science and Technology*, 3(9), 697.  
<https://doi.org/10.24925/turjaf.v3i9.697-700.424>
- Corten, A. (2002). Ecological indications for long-term variations of Atlantic inflow into the northwestern North Sea. *ICES*.  
<https://www.ices.dk/sites/pub/CM%20Documents/2002/Q/Q0602.PDF>
- Eero, M. (2012). Reconstructing the population dynamics of sprat (*Sprattus sprattus balticus*) in the Baltic Sea in the 20th century. *ICES Journal of Marine Science*, 69(6), 1010–1018. <https://doi.org/10.1093/icesjms/fss051>
- Frisk, C., Andersen, K., Temming, A., Herrmann, J., Madsen, K., & Kraus, G. (2015). Environmental effects on sprat (*Sprattus sprattus*) physiology and growth at the distribution frontier: A bioenergetic modelling approach. *Ecological Modelling*, 299, 130–139. <https://doi.org/10.1016/j.ecolmodel.2014.11.026>
- ICES Journal of Marine Science. (n.d.). Sprat. In *ICES* [Report]. Retrieved December 5, 2024, from <https://www.ices.dk/about-ICES/projects/EU-RFP/EU%20Repository/ICES%20FishMap/ICES%20FishMap%20species%20factsheet-sprat.pdf>
- Maathuis, M. a. M., Tulp, I., Valk, S., Van Den Brink, X., Couperus, A. S., Keur, M. C., Nijland, R., Sakinan, S., Van Der Vorst, V., & Poos, J. J. (2024). Small pelagic fish in the shallow Wadden Sea show opportunistic feeding with a strong benthic link. *ICES Journal of Marine Science*. <https://doi.org/10.1093/icesjms/fsae096>

Saltalamacchia, F., Berg, F., Casini, M., Davies, J. C., & Bartolino, V. (2021). Population structure of European sprat (*Sprattus sprattus*) in the Greater North Sea ecoregion revealed by otolith shape analysis. *Fisheries Research*, 245, 106131.

<https://doi.org/10.1016/j.fishres.2021.106131>